

What is claimed is:

1 1. A PDA with built-in voltage protection,
2 comprising:

3 a main device for data processing;
4 a socket for connecting to an adapter; and
5 a voltage protection module coupled between the main
6 device and the socket, for receiving an input
7 voltage from the adapter and allowing the input
8 voltage to be applied to the main device when
9 the input voltage is between a preset maximum
10 voltage and a preset minimum voltage.

1 2. The PDA as claimed in claim 1, wherein the
2 voltage protection module comprises:

3 a first control module having a first input terminal
4 and a first output terminal, the first input
5 terminal coupled to the socket to receive the
6 input voltage from the adapter, the first
7 output terminal outputting the input voltage
8 when the input voltage is smaller than the
9 preset maximum voltage; and

10 a second control module having a second input
11 terminal and a second output terminal, the
12 second input terminal receiving the input
13 voltage from the first output terminal, the
14 second output terminal outputting the input
15 voltage to the main device when the input
16 voltage is greater than the preset minimum
17 voltage.

1 3. The PDA as claimed in claim 2, wherein the
2 first control module comprises:

3 a first limiting device for comparing the input
4 voltage with the preset maximum voltage,
5 wherein the first limiting device outputs a
6 first enable signal when the input voltage is
7 less than the preset maximum voltage; and

8 a first switch device having a third input terminal
9 coupled to the input voltage, a first control
10 terminal, and a third output terminal, wherein
11 the first switch device outputs the input
12 voltage when the first control terminal
13 receives the first enable signal.

1 4. The PDA as claimed in claim 2, wherein the
2 second control module comprises:

3 a second limiting device coupled to the third output
4 terminal for comparing the input voltage from
5 the first control module with the preset
6 minimum voltage, to output a second enable
7 signal when the input voltage is greater than
8 the preset minimum voltage; and

9 a second switch device having a fourth input
10 terminal coupled to the third output terminal,
11 a second control terminal, and a fourth output
12 terminal, wherein the second switch device
13 outputs the input voltage when the second
14 control terminal receives the second enable
15 signal.

1 5. A voltage protection module for limiting an
2 input voltage between a preset maximum voltage and a
3 preset minimum voltage, comprising:

4 a first control module having a first input terminal
5 and a first output terminal,.the first input
6 terminal coupled to the input voltage, the
7 first output terminal outputting the input
8 voltage when the input voltage is less than the
9 preset maximum voltage; and

10 a second control module having a second input
11 terminal and a second output terminal, the
12 second input terminal receiving the input
13 voltage from the first output terminal, the
14 second output terminal outputting the input
15 voltage to a PDA when the input voltage is
16 greater than a preset minimum voltage.

1 6. The voltage protection module as claimed in
2 claim 5, wherein the first control module comprises:

3 a first limiting device for comparing the input
4 voltage with the preset maximum voltage,
5 wherein the first limiting device outputs a
6 first enable signal when the input voltage is
7 less than the preset maximum voltage; and

8 a first switch device having a third input terminal
9 coupled to the input voltage, a first control
10 terminal, and a third output terminal, wherein
11 the first switch device outputs the input
12 voltage when the first control terminal
13 receives the first enable signal.

1 7. The voltage protection device as claimed in
2 claim 5, wherein the second control module comprises:

3 a second limiting device coupled to the third output
4 terminal for comparing the input voltage from
5 the first control module with the preset
6 minimum voltage, to output a second enable
7 signal when the input voltage is greater than
8 the preset minimum voltage; and

9 a second switch device having a fourth input
10 terminal coupled to the third output terminal,
11 a second control terminal, and a fourth output
12 terminal, wherein the second switch device
13 outputs the input voltage when the second
14 control terminal receives the second enable
15 signal.

1 8. A voltage protection device, comprising:

2 a first limiting device for comparing an input
3 voltage and a preset maximum voltage, wherein
4 the first limiting outputs a first enable
5 signal when the input voltage is less than the
6 preset maximum voltage;

7 a first switch device having a first input terminal
8 coupled to the input voltage, a first control
9 terminal, and a first output terminal, wherein
10 the first switch device outputs the input
11 voltage when the first control terminal
12 receives the first enable signal;

13 a second limiting device coupled to the first output
14 terminal for comparing the input voltage from

15 the first switch device and a preset minimum
16 voltage, to output a second enable signal when
17 the input voltage is greater than the preset
18 minimum voltage; and
19 a second switch device having a second input
20 terminal coupled to the first output terminal,
21 a second control terminal, and a second output
22 terminal, wherein the second switch device
23 outputs the input voltage when the second
24 control terminal receives the second enable
25 signal.